

WHAT IS CLAIMED IS:

1. In a backup cable modem termination system, a method of restoring transmission of messages between one or more cable modems and the backup cable modem termination system upon failure of an active cable modem termination system, the method comprising:

5 receiving subscriber information associated with one or more cable modems from an active cable modem termination system, the subscriber information including one or more subscriber identifiers;

10 prioritizing the subscriber information, the prioritized subscriber information indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem is to be restored; and

polling the cable modems in the order indicated by the prioritized subscriber information.

2. The method as recited in claim 1, wherein prioritizing and polling are performed in response to a failover trigger from the active cable modem termination system.

15 3. The method as recited in claim 1, further comprising:

determining that the active cable modem termination system has failed;

wherein prioritizing and polling are performed after determining that the active cable modem termination system has failed.

4. The method as recited in claim 1, wherein the subscriber information
5 identifies those modems that have ranged successfully.

5. The method as recited in claim 1, wherein receiving the subscriber information occurs after a specified period of time or after a call is received by the active cable modem termination system from one or more of the cable modems.

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6. The method as recited in claim 1, further comprising:
storing the subscriber information after receiving the subscriber information;
wherein prioritizing the subscriber information comprises prioritizing the stored subscriber information.

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7. The method as recited in claim 1, wherein the subscriber information associated with each of the cable modems comprises a primary subscriber identifier that identifies the associated cable modem.

8. The method as recited in claim 7, wherein the subscriber information further comprises a MAC address associated with the cable modem.
9. The method as recited in claim 7, wherein at least a portion of the subscriber information further comprises a secondary subscriber identifier.
10. The method as recited in claim 9, wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time.
11. The method as recited in claim 9, wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data.
12. The method as recited in claim 9, wherein the subscriber information further comprises quality of service requirements.
13. The method as recited in claim 9, wherein at least a portion of the subscriber information further comprises a scheduling type.

14. The method as recited in claim 13, wherein the scheduling type indicates a type of real-time traffic to be transmitted.

5 15. The method as recited in claim 13, wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time.

10 16. The method as recited in claim 13, wherein the scheduling type indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data.

15 17. The method as recited in claim 13, wherein the scheduling type is UGS or UGS-AD.

18. The method as recited in claim 13, wherein prioritizing the subscriber information comprises:

searching the subscriber information for a secondary subscriber identifier; and

prioritizing the subscriber information having a secondary subscriber identifier such that the subscriber information has a higher priority than the subscriber information not having a secondary subscriber identifier;

5 19. The method as recited in claim 18, wherein prioritizing the subscriber information having a secondary subscriber identifier further comprises:

prioritizing the subscriber information having a secondary subscriber identifier according to the scheduling type.

10 20. The method as recited in claim 19, wherein prioritizing the subscriber information having a secondary identifier further comprises:

prioritizing the subscriber information having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system.

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21. The method as recited in claim 18, wherein prioritizing the subscriber information not having a secondary identifier comprises:

prioritizing the subscriber information not having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system.

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22. The method as recited in claim 1, wherein prioritizing the subscriber information comprises:

storing the subscriber information and a time of receipt of the subscriber information
5 by the backup cable modem termination system such that the subscriber information is associated with the time of receipt.

23. The method as recited in claim 22, wherein the stored subscriber information is stored in order of the time of receipt.

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24. The method as recited in claim 1, further comprising:

storing the subscriber information and a time of receipt of the subscriber information by the backup cable modem termination system such that the subscriber information is associated with the time of receipt.

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25. The method as recited in claim 24, further comprising:

prioritizing the subscriber information according to the time of receipt.

26. The method as recited in claim 1, further comprising:

after receiving the subscriber information, sending an acknowledgement of the subscriber information to the active cable modem termination system.

5 27. The method as recited in claim 1, further comprising:

repeatedly receiving subscriber information associated with one or more cable modems from an active cable modem termination system prior to prioritizing the subscriber information.

10 28. The method as recited in claim 27, further comprising:

wherein receiving subscriber information comprises receiving subscriber information associated with one or more cable modems from a first active cable modem termination system and receiving subscriber information associated with one or more cable modems from a second active cable modem termination system; and

15 wherein prioritizing the subscriber information comprises prioritizing the subscriber information associated with the first active cable modem termination system is performed separately from prioritizing the subscriber information associated with the second active cable modem termination system.

29. The method as recited in claim 28, further comprising:

storing the prioritized subscriber information associated with the first active cable modem termination system separately from the prioritized subscriber information associated with the second active cable modem termination system.

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30. The method as recited in claim 1, further comprising:

receiving an indication that an active cable modem termination system has failed;

determining an identity of the failed active cable modem termination system; and

wherein receiving subscriber information associated with one or more cable modems
10 from the active cable modem termination system comprises obtaining the subscriber
information associated with the failed active cable modem termination system.

31. The method as recited in claim 1, further comprising:

receiving an indication that a call initiated by one of the cable modems has been
15 terminated; and

removing subscriber information associated with the one of the cable modems from
memory associated with a previously failed active cable modem termination system.

32. A computer-readable medium storing thereon computer-readable instructions for performing a method in a backup cable modem termination system of restoring transmission of messages between one or more cable modems and the backup cable modem termination system upon failure of an active cable modem termination system, comprising:

5 instructions for receiving subscriber information associated with one or more cable modems from an active cable modem termination system, the subscriber information including one or more subscriber identifiers;

10 instructions for prioritizing the subscriber information, the prioritized subscriber information indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem is to be restored; and

 instructions for polling the cable modems in the order indicated by the prioritized subscriber information.

33. A backup cable modem termination system adapted for restoring transmission of messages between one or more cable modems and the backup cable modem termination system upon failure of an active cable modem termination system, comprising:

 means for receiving subscriber information associated with one or more cable modems from an active cable modem termination system, the subscriber information including one or more subscriber identifiers;

means for prioritizing the subscriber information, the prioritized subscriber information indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem is to be restored; and

means for polling the cable modems in the order indicated by the prioritized subscriber information.

34. A backup cable modem termination system adapted for restoring transmission of messages between one or more cable modems and the backup cable modem termination system upon failure of an active cable modem termination system, comprising:

10 a processor; and

a memory, at least one of the processor and the memory being adapted for:

receiving subscriber information associated with one or more cable modems from an active cable modem termination system, the subscriber information including one or more subscriber identifiers;

15 prioritizing the subscriber information, the prioritized subscriber information indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem is to be restored; and

polling the cable modems in the order indicated by the prioritized subscriber information.